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(54) Modular construction components.

(57) The invention consists of a partitioning structure comprising panel-like wall members (2.1,2.2), planar floor members (3, Figs. 3 and 4) and pillar members including T-formation (4), corner-formation (5) and cross-formation (6) pillar members. The wall members may be provided with engaging formations (15, Fig. 3) in the form of multiple hook-formations of a conventional hook-and-loop fastening arrangement for use on a carpet-like support surface. The pillar members are provided with retainer formations comprising recesses (7,10,11,20 Figs.5,6,7,8) for receiving parts of the wall members and gripping formations (14, Fig. 5) for maintaining the wall members within the retainer formations. The floor members (3, Fig. 4)

may be received within grooves (17, Fig. 4) formed near the lower edge of the wall members.

EP 0 598 549 A1

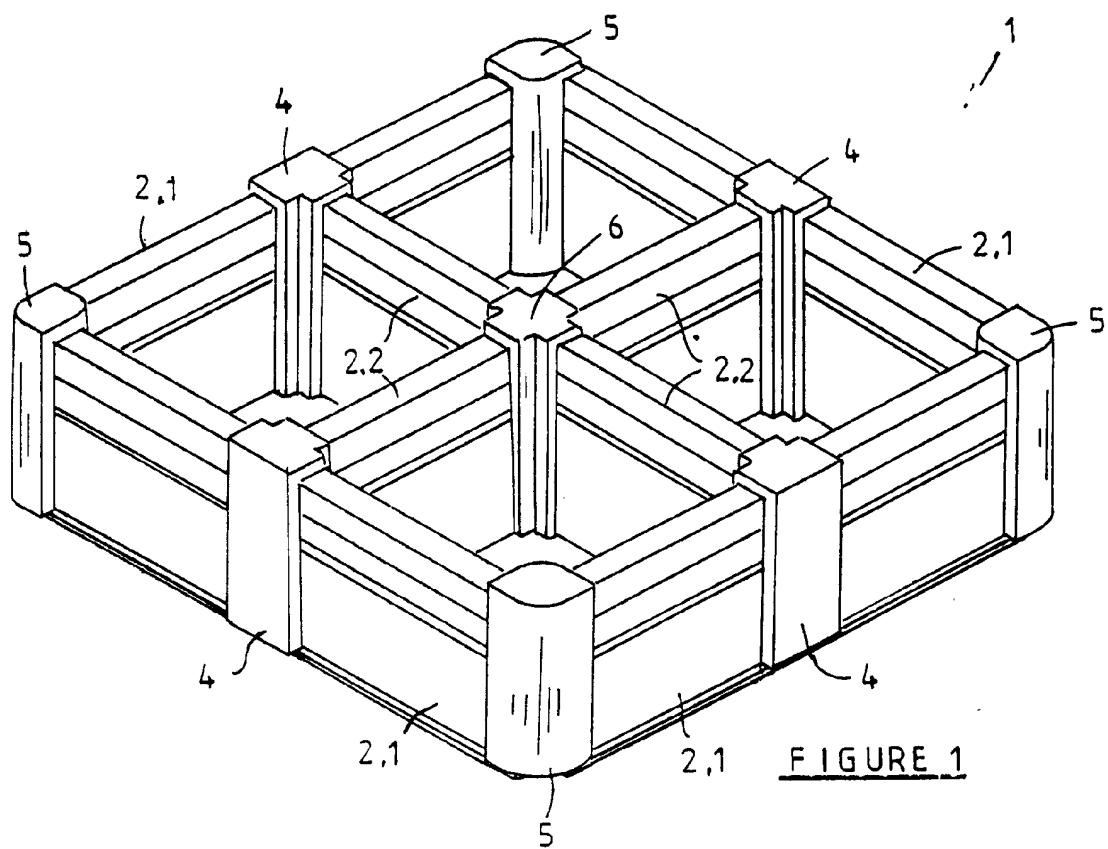


FIGURE 1

This invention relates to a modular partitioning structure.

The use of partitioning structures to act as geographical boundaries, to provide shelter or to facilitate the partitioning of space is common practice. The specific application of such structures to partition packing space in movable environments such as the interior of motor vehicles is also known. This specific application has led to the development of numerous partitioning structures which are suitable for use in such environments and which are mostly securable to external support surfaces and/or formations. However, a general disadvantage of the existing partitioning structures is the above necessity of external support surfaces and/or formations as well as securing means with which the partitioning structures can be secured, limiting the adaptability of such structures and/or their application in different environments. Such structures may be difficult to assemble, of limited adaptability and the various elements thereof may not be securely held together in assembled form.

It is accordingly an object of the invention to provide a novel partitioning structure or elements thereof which overcome at least some of the above disadvantages, or at least provide a useful alternative to the known structures.

According to a first aspect of the invention there is provided a partitioning structure including wall members and pillar members, the latter having retainer formations for retaining the wall members therewith, thereby interconnecting adjacent wall members, the pillar members further having gripping formations for releasably securing the wall members to the pillar members. The retainer formations may comprise recesses- such as slots, grooves or the like, extending at least partially along the length of the pillar members while gripping formations may consist of at least one resiliently flexible ridge, nodule, stub-element or the like, located on at least one side of the recess.

The wall members may be panel-like and are preferably of modular lengths to provide modular partitions of substantially quadrangular configurations. The wall members may further be provided with locating formations for locating floor or roof members.

The pillar members may provide means for connecting respective wall members to each other in T-formations and/or corner-formations and/or cross formations and/or end-to-end, thereby enabling the construction of quadrangular partitioning structures.

The pillar members may be modular, rendering the partitioning structure modular as well as adaptable to provide modular partitioning structures with at least one partition for specific dimensional requirements.

The partitioning structure further may include floor members engageable with the wall members. The floor members are preferably planar panels, their

edges defining the engaging formations to be located and supported by the wall members. The floor members may be modular to provide a floor to the quadrangular partitions in the modular partitioning structure.

5 The partitioning structure may include engaging formations to render the partitioning structure suitable for use on a carpet-like support surface. For example, the partitioning structure may incorporate engaging formations extending at least partially along the interface between the partitioning structure and the carpet-like support surface whereby in use the partitioning structure releasably engages the carpet-like support surface.

10 15 The engaging formations preferably comprise multiple hook formations of a hook-and-loop fastening arrangement to enable the partitioning structure to engage releasably with the carpet-like support surface.

20 25 The engaging formations are advantageously provided on the wall members where they will contact the support surface in use.

The wall members, pillar members and floor or roof members where present may form parts of a kit, from which partitioning structures having a wide variety of different configurations may be assembled. The invention also comprises a method for providing a partitioning structure by assembling such a kit to form an erected partitioning structure.

30 35 According to a second aspect of the invention there is provided a wall member for use in a partitioning structure, the wall member being of modular length to provide modular partitions of substantially quadrangular configuration, the wall member being provided with formations for locating floor or roof members therein.

The wall members may have engaging formations to engage a carpet-like support surface.

40 45 According to a third aspect of the invention there is provided a pillar member suitable for use in a partitioning structure, including a plurality of wall members, the pillar member having retainer formations for retaining the wall members therewith, thereby interconnecting adjacent wall members, the pillar members further being provided with gripping formations for releasably securing the wall members to the pillar members. The retainer formations may consist of recesses such as slots, grooves or the like extending at least partially along the length of the pillar members while the gripping formations may consist of at least one resiliently flexible ridge, nodule, stub element or the like, located on at least one of the opposing sides of the recesses.

50 55 The pillar members may consist of T-formation pillar members and corner-formation pillar members to provide means for connecting respective wall members to each other in T-formations and/or corner-formations to enable the construction of sub-

stantially rectangular partitioning structures.

The pillar members further may consist of cross-formation pillar members to provide means for connecting respective wall members to each other in cross-formations to enable the construction of modular partitioning structures. The pillar members also may include linear-formation pillar members to provide means for interconnecting respective wall members to extend the same in a singular plane.

According to a fourth aspect of the invention there is provided a partitioning structure or wall member suitable for use on a carpet-like support surface, the partitioning structure comprising engaging formations whereby in use the partitioning structure releasably engages the carpet-like support surface.

The engaging formations may consist of multiple hook-formations of a hook-and-loop fastening arrangement.

The partitioning structure may include a plurality of interconnecting wall members. The wall members are preferably provided with the multiple hook-formations in use to enable the partitioning structure to engage releasably with the carpet-like support surface. The wall members may be panel-like with the hook-formations extending substantially along a side thereof. The wall members are preferably of modular length to provide modular partitions of substantially quadrangular configurations.

The partitioning structure further may include connector means for connecting the wall members to each other. The connector means may consist of pillar members, the pillar members preferably including T-formation pillar members and corner-formation pillar members to provide means for connecting respective wall members to each other in T-formation and/or corner-formations, thereby enabling the construction of quadrangular partitioning structures.

The pillar members further may include cross-formation pillar members to provide means for connecting respective wall members to each other in cross-formations. The pillar members also may include linear-formation pillar members to provide means for interconnecting respective wall members to extend the same in a singular plane.

The connector means may be modular, rendering the partitioning structure modular as well as adaptable to provide modular partitioning structures with at least one partition for specific dimensional requirements.

The pillar members may be provided with retainer formations for retaining the wall members therewith, thereby interconnecting adjacent wall members to define in use the partitioning structure. The retainer formations may consist of recesses such as slots, grooves or the like, extending at least partially along the length of the pillar members for receiving and retaining the wall members therein.

The pillar members further may be provided with

gripping formations for releasably securing the wall members thereto. Each gripping formation may consist of at least one resiliently flexible ridge, nodule, stub element or the like, provided on at least one of the opposing sides of the recesses.

5 The partitioning structure further may include floor members. The floor members may have engaging formations to engage the wall members, the wall members having locating formations co-operatively to locate the engaging formations therein. The floor panels are preferably planar, their edges defining the engaging formations to be located and supported by the wall members. The floor members may be modular to provide a floor to the quadrangular partitions in the modular partitioning structure.

10 The partitioning structure may comprise part of a kit from which a variety of partitioning structures each having different configurations may be assembled.

15 A preferred embodiment will now be described by means of a non-limiting example only and with reference to the accompanying drawings wherein;

20 Figure 1 is a perspective view from above of a typical partitioning structure in accordance with the invention;

25 Figure 2 is a sectional plan view of a modular unit of the partitioning structure illustrated in Figure 1;

30 Figure 3 is a perspective view of one end of a wall member illustrated in Figure 1, also illustrating a typical section thereof with a located floor member partially shown;

35 Figure 4 is an enlarged end view of the base portion of the wall member with part of a located floor member as illustrated in Figure 3;

40 Figure 5 is a partially sectioned perspective view of a T-formation pillar member as illustrated in Figure 1;

45 Figure 6 is a partially sectioned perspective view of a corner-formation pillar member as illustrated in Figure 1;

50 Figure 7 is a partially sectioned perspective view of a cross-formation pillar member as illustrated in Figure 1;

Figure 8 is a partially sectioned perspective view of a linear-formation pillar member in accordance with the invention; and

55 Figure 9 is a sectional plan view of two wall members as illustrated in Figure 3 and 4 when connected by means of the linear-formation pillar member as illustrated in Figure 8.

The same reference numerals are used to denote corresponding parts in the accompanying drawings.

A partitioning structure 1 as illustrated in Figures 1 - 7 consists of panel-like wall members 2, planar floor members 3 and pillar members including T-formation 4, corner-formation 5 and cross-formation pillar members 6.

The wall members 2 are of modular lengths to provide modular partitioning structures having partitions with quadrangular configurations. More particularly and with reference to Figure 2, the wall members 2 consist of outer wall members 2.1 and inner wall members 2.2. The wall members 2 are provided with engaging formations in the form of multiple hook-formations 15 of a conventional hook-and-loop fastening arrangement such as Velcro. The hook-formations 15 extend along one side of the wall members 2, thereby defining a base of the wall members 2 and are located in a recess formation 16 extending co-extensively along the base of the wall members.

The wall members 2 are further provided with locating formations 17 extending along the length of the members near the base thereof for locating and supporting the planar floor members by means of engaging formations provided to the floor members, the engaging formations being defined by the respective edges of the floor members.

The planar floor members 3 are similarly of modular dimensions to provide a floor to the quadrangular partitions in the modular partitioning structure 1.

The T-formation pillar members 4 are each provided with a locating formation in the form of an elongate groove 7 extending substantially along the length of the pillar members to enable the pillar members to receive a first wall member 2 therein, the wall member extending in use through the elongate slot in the pillar member to define a singular plane therethrough. Each T-formation pillar member 4 is further provided with a slot 9 extending perpendicularly to the groove 7 substantially along the length of the pillar member to enable the pillar member to receive an end 8 of a second wall member 2 therein, the second wall member extending from the T-formation pillar member in a plane perpendicular to the plane defined by the first wall member.

The corner-formation pillar members 5 are each provided with locating formations in the form of two quadrangular slots 10 extending substantially along the length of these pillar members, the slots similarly capable of receiving wall member ends 8 therein, the received wall members 2 extending from adjacent sides of these pillar members in planes perpendicular to each other.

The cross-formation pillar members 6 each consist of an elongate square tubing 11 with four walls each of which has planar ridge formations 12 extending perpendicularly with the walls therefrom along the two opposing edges thereof, defining locating formations in the form of four rectangular channels 13 extending respectively, substantially co-extensively along the four walls of the square tubing.

The T-formation 4 and the corner-formation pillar members 5 are each provided with gripping means in the form of a resiliently flexible ridge 14 located on one of the opposing side walls of the grooves 7 and

the slots 10 of the respective pillar members. Each gripping ridge 14 consists of an elongate rubber-like seal located in a corresponding groove, the groove extending substantially along the length of the pillar members. Alternatively, the gripping means consist of a plurality of modules, stub elements or the like, equi-spaced along the length of one of the opposing sides of the grooves 7 and the slots 10.

The partitioning structure also includes linear-formation pillar members 17a to provide means for interconnecting respective wall members 2 to extend the same in a singular plane. The linear-formation pillar members 17a each consist of two slat-like members 18 extending co-extensively in two parallel planes in superimposition, interlinked by means of a rib 19. The rib 19 extends co-extensively with, transversely to and intermediate the two slat-like members. The linear-formation pillar member 17a is similarly provided with a first gripping means in the form of a resiliently flexible ridge 14 located on one of the opposing inner walls of the slat-like members 18, the latter defining two opposing locating formations in the form of slots 20 extending substantially along the length of the pillar members. The linear-formation pillar member 17a is further provided with a second gripping means in the form of a second resiliently flexible ridge 14, alternatively a planar rigid ridge 21 for gripping and securing in use wall member ends 8 in the slots 20, thereby interconnecting wall members 2 to extend the same in a singular plane.

In use, the configuration and the dimensions of a partitioning structure are selected, thereby determining the required number of T-formation 4, corner-formation 5, cross-formation 6 and extension-formation pillar members 17a as well as the wall members 2 and the floor members 3.

To provide a configuration as shown in Figure 1, the opposing ends 8 of four outer wall members 2.1 are located in the corresponding slots 10 extending along the length of four corner-formation pillar members 5 to define a rectangular outer partitioning structure. The edges of a single floor member 3 may be placed into the locating formations 17 of the outer wall members 2.1 during such assembly. The outer partitioning structure is then placed on a carpet-like support surface (not shown) to enable the hook formations 15 to engage with the carpet-like support surface.

Four inner wall members 2.2 are thereafter interconnected by means of a cross-formation pillar member 6 and connected to the outer partitioning structure by means of four T-formation pillar members 4, the latter interconnecting the inner wall members with the outer wall members 2.1 by receiving the outer wall members into the grooves 7. The lower edges of the inner wall members 2.2 and the cross-formation pillar member 6 rest on the floor member 3, where present.

Alternatively, each partitioned compartment bounded by the inner wall members 2.2 and outer wall members 2.1 may be provided with a separate floor member 3 supported at its edges in locating formations 17 provided in the inner and outer wall members.

When use of the partitioning structure 1 is discontinued, the partitioning structure can be dismantled by disconnecting the various wall members 2, the floor members 3 and the pillar members 4,5, and 6, while simultaneously disengaging the wall members from the carpet-like support surface.

The dismantled partitioning structure 1 can then be stored by packing the various members adjacent to each other to define a substantially flat package, the latter preferable for ease of storage and/or transport.

The various members of the partitioning structure are made of polyvinyl chloride, alternatively of suitable polymeric or copolymeric plastics material, aluminium, metal alloy, wood, cardboard, cementitious composition or combinations thereof.

It will be appreciated that many variations in detail are possible without departing from the scope and/or spirit of the invention as defined in the consistency statements, such as providing the cross-formation pillar members with gripping means similar to those of the T-formation and the corner-formation pillar members are provided with, or further to provide the various pillar members with more permanent securing means for securing the wall members thereto. Roof members also can be provided in accordance with the invention.

## Claims

1. A partitioning structure including wall members (2.1,2.2) and pillar members (4,5,6,17a), the latter having retainer formations (7,9,10,13,20) for retaining the wall members therewith, thereby interconnecting adjacent wall members, the pillar members further being provided with gripping formations (14) for releasably securing the wall members to the pillar members.
2. A partitioning structure as claimed in claim 1 wherein the wall members (2.1,2.2) are panel-like and of modular length to provide modular partitions of substantially quadrangular configurations, the wall members further provided with locating formations (17) for locating floor (3) or roof members.
3. A partitioning structure as claimed in claims 1 or 2 wherein the pillar members (4,5,6,17a) provide means for connecting respective wall members to each other in T-formations and/or corner-for-

mations and/or cross formations, and/or end-to-end, thereby enabling the construction of quadrangular partitioning structures.

5. 4. A partitioning structure as claimed in any preceding claim wherein the retainer formations (7,9,10,13,20) comprise recesses extending at least partially along the length of the pillar members.
10. 5. A partitioning structure as claimed in claim 4 wherein the gripping formations (14) consist of at least one resiliently flexible ridge, nodule, stub element or the like, provided on at least one side of the recess (7,9,10,13,20).
15. 6. A partitioning structure as claimed in any one of the preceding claims characterized in that it is provided with floor members (3), engageable with the wall members(2.1,2.2).
20. 7. A partitioning structure as claimed in any of the preceding claims characterized in that it is adapted for use on a carpet-like support surface, the partitioning structure being provided with engaging formations (15) whereby in use the partitioning structure releasably engages the carpet-like support surface (15).
25. 8. A partitioning structure as claimed in claim 7 wherein the engaging formations (15) comprise multiple hook-formations of a hook-and-loop fastening arrangement to enable the partitioning structure to engage releasably with the carpet-like support surface.
30. 35. 9. A wall member (2.1,2.2) suitable for use in a partitioning structure, the wall member being of modular length to provide modular partitions of substantially quadrangular configuration, the wall member being provided with formations (17) for locating floor (3) or roof members therein.
40. 45. 10. A pillar member (4,5,6,17a) suitable for use in a partitioning structure including a plurality of wall members, the pillar member having retainer formations (7,9,10,13,20) for retaining the wall members therewith, thereby interconnecting adjacent wall members, the pillar members further being provided with gripping formations (14) for releasably securing the wall members to the pillar members.
50. 55. 11. A partitioning structure or wall member (2.1,2.2) suitable for use on a carpet-like support surface, the structure or member comprising engaging formations (15) whereby in use the structure or member releasably engages the carpet-like sup-

port surface.

12. A kit assembleable to form a partition structure  
as claimed in any of claims 1 - 8 or 11.

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13. A method for providing a partitioning structure in-  
cluding the steps of assembling a kit for a parti-  
tioning structure substantially as claimed in  
claim 12 to form an erected partitioning struc-  
ture.

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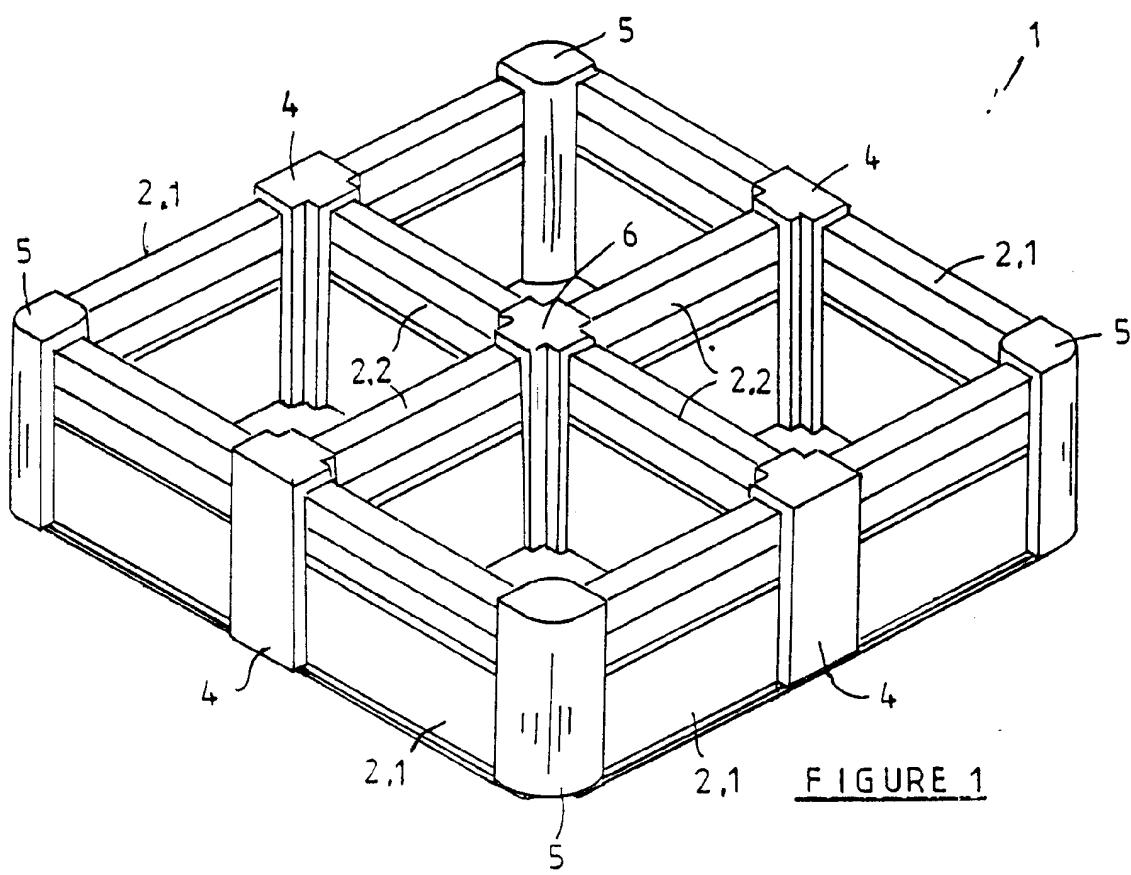
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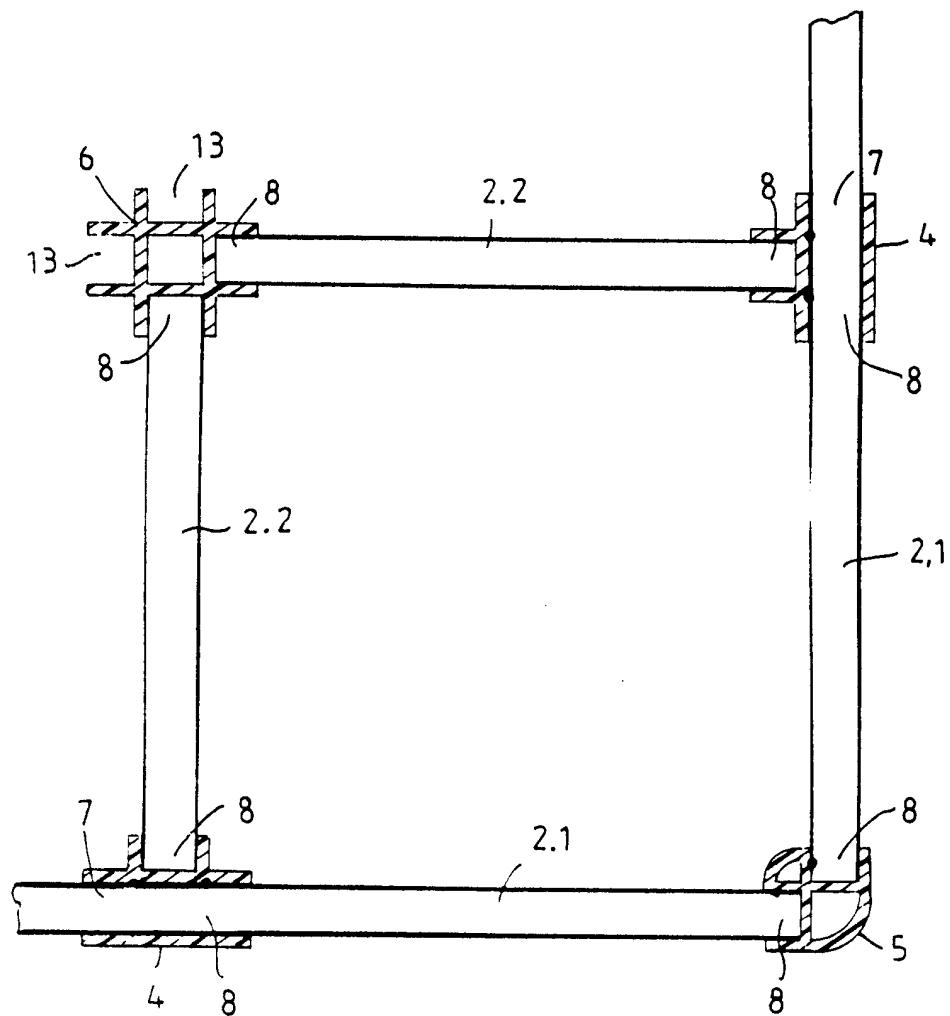
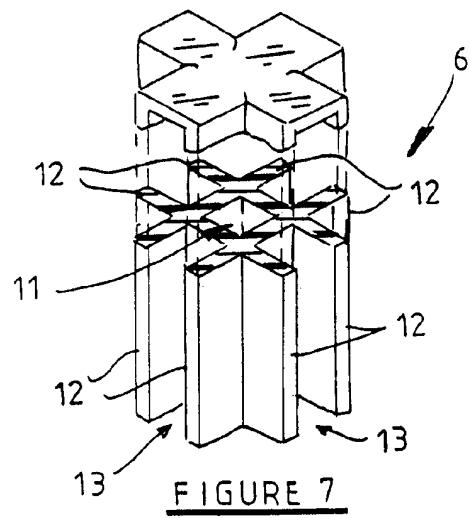
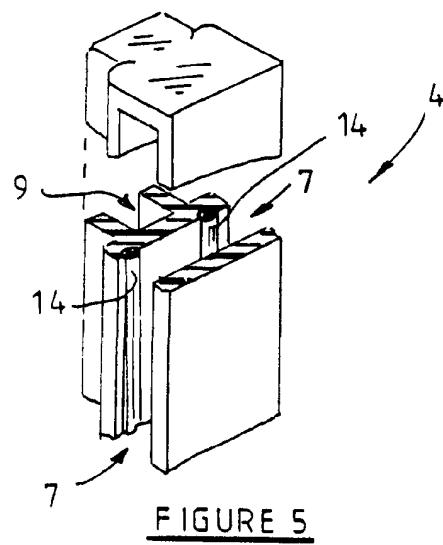
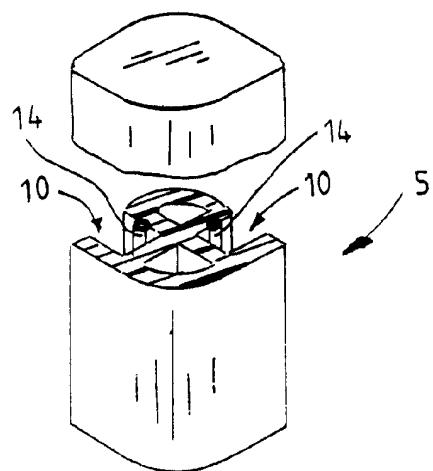
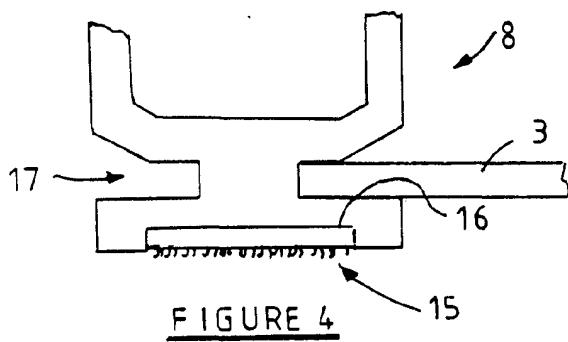
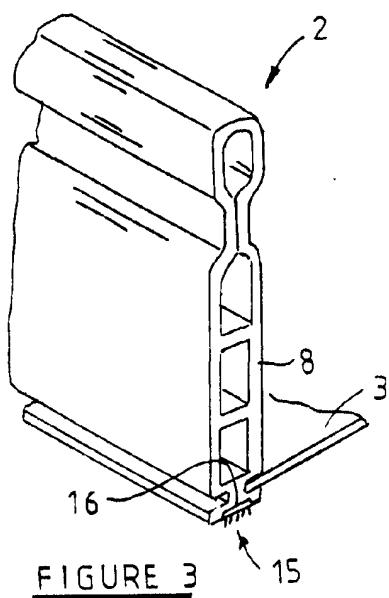


FIGURE 2



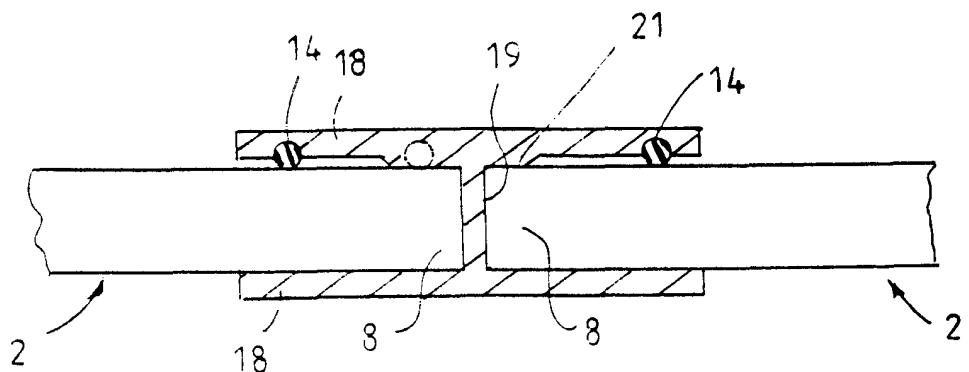
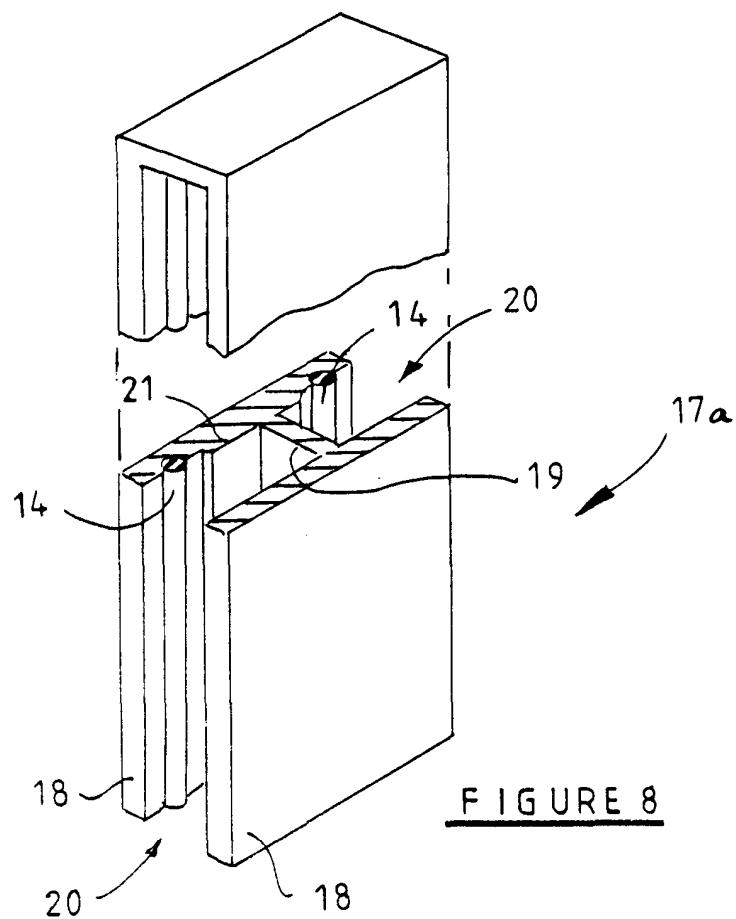


FIGURE 9



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## EUROPEAN SEARCH REPORT

Application Number  
EP 93 30 8973

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	DE-A-26 10 570 (BERNERTH) * the whole document *	1	E04B2/74 E04B1/61
A	---	2-5, 9, 10	
X	GB-A-1 081 423 (PERFONIT LIMITED) * the whole document *	1	
A	---	3-5, 10	
X	EP-A-0 343 686 (ELECTRIC AVENUE INC.) * figures 1-5 *	1	
A	US-A-3 571 999 (DOWNING) ---		
A	DE-A-36 25 046 (MICHEL) ---		
A	EP-A-0 053 933 (BENNETT) -----		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 February 1994	Examiner Clasing, M
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
<small>EPPO FORM 1500.02.02 (POC01)</small>			